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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/099,775

03/15/2002

Jean-Christophe Jacques Kling

3206.2.1 NP

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7590
Starkweather & Associates
9035 South 1300 East #200
Sandy, UT 84094

07/14/2008

EXAMINER

TRIGGS, ANDREW J

ART UNIT

PAPER NUMBER

3635

MAIL DATE

DELIVERY MODE

07/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/099,775

Applicant(s)KLING, JEAN-CHRISTOPHE
JACQUES**Examiner**

Andrew J. Triggs

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Examiner acknowledges the amendment made to claim 1. However, this amendment only overcomes the 35 USC 112 2nd paragraph rejection.

Response to Arguments

2. Applicant's arguments filed on 22 May 2008 have been fully considered but they are **not** persuasive and are also moot in view of the new grounds of rejection based on the amendment. Applicant argues that the rejections are improper because they do not disclose all of the limitations of the claims. Examiner disagrees with applicant in that all the limitations of the claims are present in the prior art whether the limitations are explicitly or implicitly stated, inherently understood or would be obvious to one of ordinary skill in the art. Furthermore, applicant continually argues the cited art does not disclose the limited vales of angles constrained by the integers j, k , m, n, q, r, s and t and that these vales are not arbitrary. Examiner disagrees with this argument as well because the patent application is directed toward an architectural system. The prior art does not teach the angles are constrained by these values, however the applicant does not state why there is an advantage to limiting the angles to these values. It appears that another system with angles close to those as described by the applicant would perform equally well. If this application were for a mathematical method for building the structure with angles with specific values, it might carry more weight, but it does not. Therefore, the previous rejections stand in view of the amendment to claim 1 because it

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would be obvious to one of ordinary skill in the art that the angles of a triangle would add up to be 180 degrees.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant argues the new limitation “wherein the integers j, k, m, n, q, r, s and t are constrained such that the first, second, and third bas angle add to 180°” may be “inherently present in the claims” but it is not present in the specification or the claims and is therefore new matter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

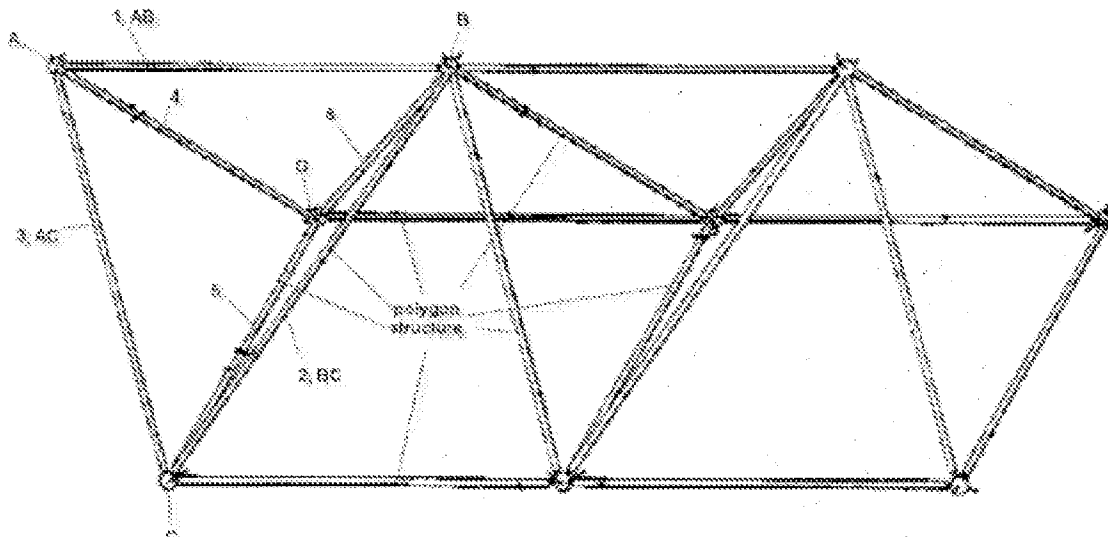
6. Claims 1-12 and 14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Chicchis et al., US Patent # 3,789,562.

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As to claim 1, de Chicchis et al. disclose an architectural system (Fig. 1) comprising a triangular base (1,2, 3, annotated figure) comprising first (1, annotated figure), second (2, annotated figure) and third (3, annotated figure) complete struts substantially aligned along first, second, and third axes (AB, BC, and AC, annotated figure) respectively, the axes all contained within a base plane, the first and third axes forming a first base angle (CAB, annotated figure), the first and second axes forming a second base angle (ABC, annotated figure), the second and third axes forming a third acute base angle (BCA, annotated figure), more than one of the struts each comprising at least two rigid pieces (10, 20, 22, Fig. 2) able to move apart so as to produce a strut elongation; a first node (A, annotated figure) engaging the first and third complete struts, the first node large enough to maintain the first base angle, the first base angle consisting of a first positive value about equal to $(jx20.9^\circ + kx31.7^\circ + mx36^\circ + nx37.4^\circ)$, where j, k, m, and n are each an integer less than three (shown in annotated figure); a second node (B, annotated figure) engaging the first and second complete struts, the second node large enough to maintain the second base angle, the second base angle consisting of a second positive value about equal to $(qx20.9^\circ + rx31.7^\circ + sx36^\circ + tx37.4^\circ)$, where q, r, s, and t are each an integer less than three (shown in annotated figure); a third node (C, annotated figure) engaging the second and third complete struts, the third node C large enough to maintain the third base angle at a third positive value less than 60° (shown in annotated figure); and an extension (4, 5, or 6, annotated figure) engaging the triangular

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base and comprising a fourth complete strut substantially aligned along a fourth axis that forms a substantially acute angle $> 3^\circ$ with the base plane (shown in annotated figure). De Chicchis does not teach integers j, k, m, n, q, r, s and t are constrained such that the first, second and third base angles add to 180 degrees. However, it would have been obvious to one of ordinary skill in the art to have the first, second and third base angles add to 180 degrees because in every triangle, the angles always add up to 180 degrees. Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time of the invention.



Annotated figure taken from de Chicchis, Fig. 1

As to claim 2, de Chicchis et al. disclose the architectural system of claim 1 in which the fourth axis (4, annotated figure) forms an angle DAB with the first axis that is substantially equal to a reference angle selected from a group consisting of $13.3^\circ, 15.5^\circ, 20.9^\circ, 22.2^\circ, 31.7^\circ, 5.3^\circ, 36^\circ, 37.4^\circ, 37.8^\circ, 41.8^\circ, 44.5^\circ, 45^\circ,$

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54.7° , 58.3° , 60° , 63.4° , 65.9° , 69.1° , 70.5° , 72° , 75.5° , 76.7° , 79.2° , 82.2° ,
90° , 97.8° , 100.8° , 103.3° , 104.5° , 108° , 109.5° , 110.9° , 114.1° , 116.6° , 120° ,
121.7° , 125.3° , 135° , 135.5° , 138.2° , 142.2° , 142.6° , 144° , 144.7° , 148.3° ,
155.9° , 157.8° , 159.1° , 164.5° , and 166.7° (shown in annotated figure).

As to claim 3, de Chicchis et al. disclose the architectural system of claim 1 in which the fourth axis (5, annotated figure) forms an angle with the second axis that is substantially equal to a reference angle selected from a group consisting of 13.3° , 15.5° , 20.9° , 22.2° , 31.7° , 35.3° , 36° , 37.4° , 37.8° , 41.8° , 44.5° , 45° , 54.7° , 58.3° , 60° , 63.4° , 65.9° , 69.1° , 70.5° , 72° , 75.5° , 76.7° , 79.2° , 82.2° , 90° , 97.8° , 100.8° , 103.3° , 104.5° , 108° , 109.5° , 110.9° , 114.1° , 116.6° , 120° , 121.7° , 125.3° , 135° , 135.5° , 138.2° , 142.2° , 142.6° , 144° , 144.7° , 148.3° , 155.9° , 157.8° , 159.1° , 164.5° , and 166.7° (shown in annotated figure).

As to claim 4, de Chicchis et al. disclose the architectural system of claim 1 in which the fourth axis (6, annotated figure) forms a fourth angle with another of the axes that is substantially equal to a reference angle selected from a group consisting of 13.3° , 15.5° , 20.9° , 22.2° , 31.7° , 35.3° , 36° , 37.4° , 37.8° , 41.8° , 44.5° , 45° , 54.7° , 58.3° , 60° , 63.4° , 65.9° , 69.1° , 70.5° , 72° , 75.5° , 76.7° , 79.2° , 82.2° , 90° , 97.8° , 100.8° , 103.3° , 104.5° , 108° , 109.5° , 110.9° , 114.1° , 116.6° , 120° , 121.7° , 125.3° , 135° , 135.5° , 138.2° , 142.2° , 142.6° , 144° , 144.7° , 148.3° , 155.9° , 157.8° , 159.1° , 164.5° and 166.7° (shown in annotated figure).

As to claim 5, de Chicchis et al. disclose the architectural system of claim 4 in which one of the struts has a maximum diameter D and in which one of the nodes has a

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radius R that is not less than $D/2$ (shown in Fig. 2, the diameter of strut, 10, is clearly less than the diameter of node, 14; therefore the radius of the node is greater than $D/2$).

As to claim 6, de Chicchis et al. disclose the architectural system of claim 4 further comprising a polygon structure (7, annotated figure) coupled to the fourth complete strut (4, annotated figure), the polygon structure having N sides each occupied by a respective complete strut, the third axis containing one of the N sides, the fourth axis containing another of the N sides wherein the fourth complete strut forms a portion of the polygon structure (shown in annotated figure).

As to claim 7, de Chicchis et al. disclose the architectural system of claim 4 in which $j=0$ (shown in annotated figure).

As to claim 8, de Chicchis et al. disclose the architectural system of claim 4 in which j and q are both even (shown in annotated figure).

As to claim 9, de Chicchis et al. disclose the architectural system of claim 4 in which $j=1$ (shown in annotated figure).

As to claim 10, de Chicchis et al. disclose the architectural system of claim 4 in which n and t are both even.

As to claim 11, de Chicchis et al. disclose the architectural system of claim 4 in which each of the nodes has a radius R and in which each of the struts has a respective diameter less than $2R$ (shown in Fig. 2, the diameter of strut, 10, is

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clearly less than the diameter of node, 14; therefore the diameter of the strut is less than $2R$),

As to claim 12, de Chicchis et al. disclose the architectural system of claim 4 in which the second node includes first and second couplings (18, Fig. 2) respectively engaging the first and second complete struts, the first coupling capable of retaining the first strut under a tension of 100 Newtons along the first axis (A.B), the second coupling capable of retaining the second strut under a tension of 100 Newtons along the second axis (BC).

As to claim 13, de Chicchis et al. disclose the claimed invention except for the architectural system being made of non-metallic material. It would have been a matter of obvious design choice to form the architectural system out of non-metallic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 233.

As to claim 14, de Chicchis et al. disclose the architectural system of claim 4 in which $m=0$ (shown in annotated figure).

As to claim 15, de Chicchis et al. disclose the architectural system of claim 1 ~n which $m=0$ (shown in annotated figure).

As to claim 16, de Chicchis et al. disclose the architectural system of claim 1 ~n which j is not equal to q (shown in annotated figure).

As to claim 17, de Chicchis et al. disclose the architectural system of claim 1 ~n which q is less than 2 (shown in annotated figure).

As to claim 18, de Chicchis et al. disclose the architectural system of claim 1 ~n which $k=0$ (shown in annotated figure).

As to claim 19, de Chicchis et al. disclose the architectural system of claim 1 ~n which k and r are both even (shown in annotated figure).

As to claim 20, de Chicchis et al. disclose the architectural system of claim 1 ~n which k is not equal to 1 (shown in annotated figure).

As to claim 21, de Chicchis et al. disclose the architectural system of claim 1 ~n which $n = t$ (shown in annotated figure).

As to claim 22, de Chicchis et al. disclose the architectural system of claim 1 ~n which $j=0$ (shown in annotated figure).

As to claim 23, de Chicchis et al. disclose the architectural system of claim 1 ~n which j and q are both even (shown in annotated figure).

As to claim 24, de Chicchis et al. disclose the architectural system of claim 1 ~n which $j=l$ (shown in annotated figure).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Triggs whose telephone number is 571-270-3657. The examiner can normally be reached on Monday through Thursday 7:00am - 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard E. Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Richard E. Chilcot/
Supervisory Patent Examiner, Art Unit 3635

/Andrew J Triggs/
Examiner, Art Unit 3635